INCH POUND
MIL-DTL-9395/38B
30 May 2001
SUPERSEDING
MIL-S-9395/38A
6 February 1978

DETAIL SPECIFICATION SHEET

SWITCHES, PRESSURE, (GAGE) TYPE II, LOW LEVEL TO 5 AMPERES

This specification sheet is approved for use by all Departments and Agencies of the Department of Defense.

The complete requirements for procuring the pressure switches described herein shall consist of this document and the latest issue of Specification MIL-DTL-9395.

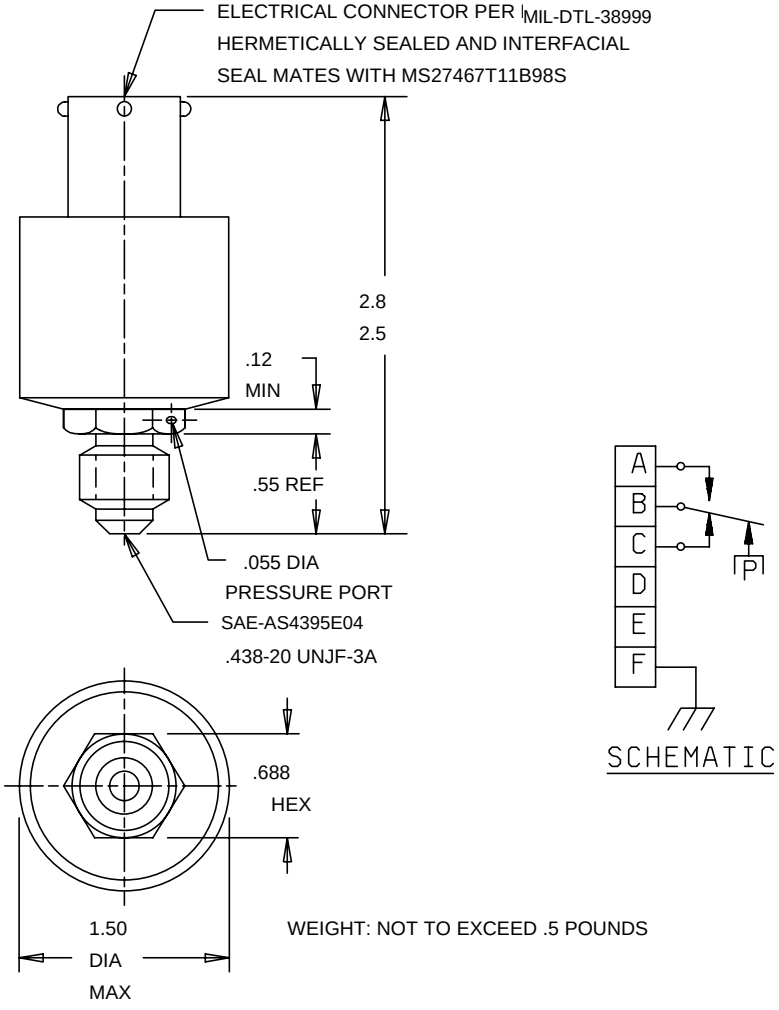
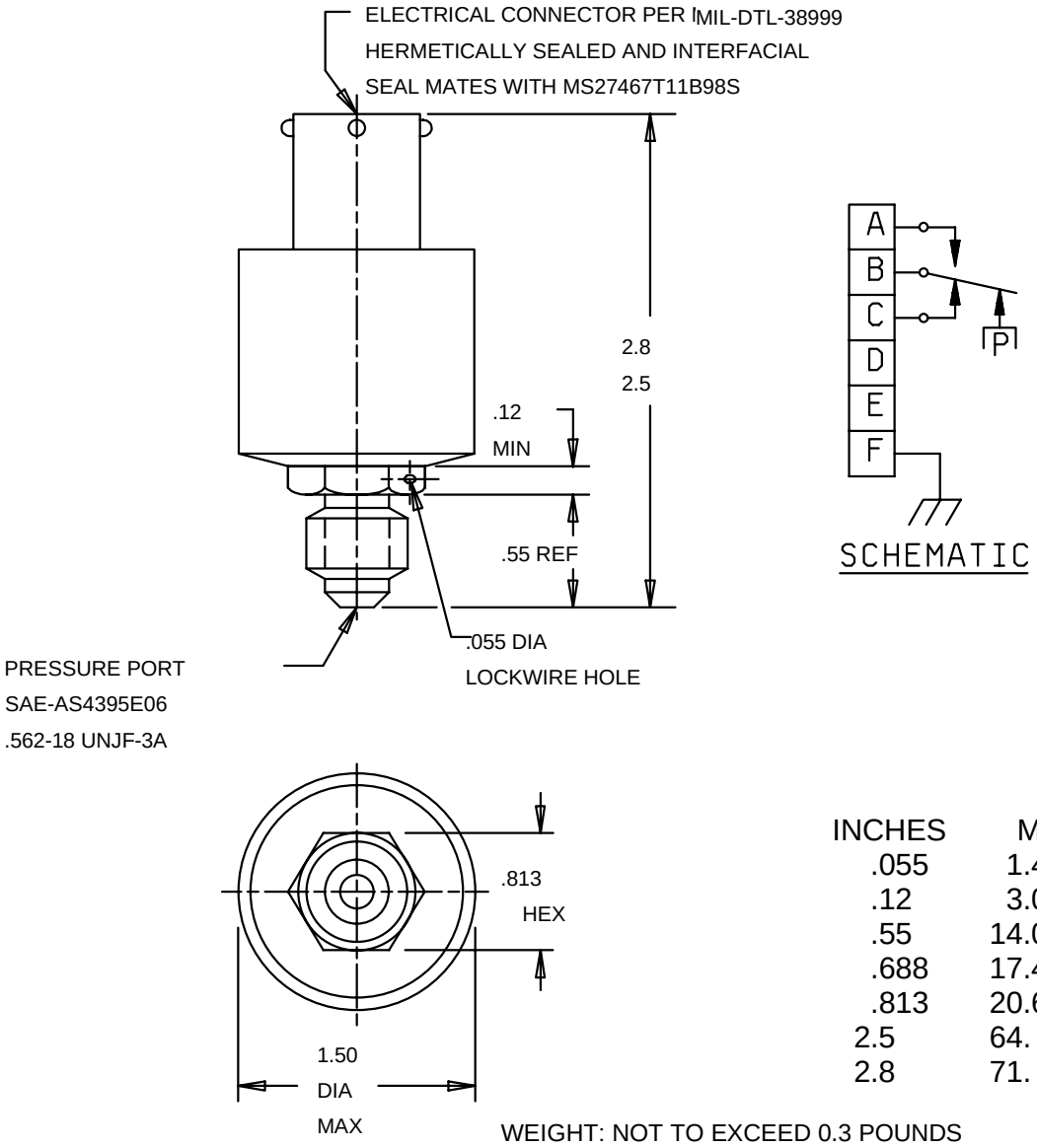


FIGURE 1. Switches.



INCHES	MM
.055	1.40
.12	3.0
.55	14.0
.688	17.48
.813	20.65
2.5	64.
2.8	71.

WEIGHT: NOT TO EXCEED 0.3 POUNDS

CONFIGURATION 2

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only and are based upon 1.00 inch = 25.4 mm.
3. Exact shape of switch is optional provided outline dimensions specified are not exceeded and connector locations are as specified.
4. Schematics shown are for switches with pressure ports exposed to zero lb_f/in^2.

FIGURE 1. Switches - Continued.

REQUIREMENTS:

Dimensions, configurations, and electrical schematic: See figure 1.

Weight: See figure 1.

Calibration: See tables I, II, III, and IV.

System pressure: 125 lb_f/in^2.

Proof pressure: 250 lb_f/in^2.

Burst pressure: 500 lb_f/in^2.

Electrical ratings: See table I.
Minimum current: 25,000 cycles.
Low level: 50,000 cycles.
NOTE: Switches shall be subjected only to low level loads prior to delivery.

Seal:
Electrical chamber: See table I.
Pressure chamber: Hermatic.
Reference chamber: Unsealed.

Electrical connector: See figure 1.

Pressure port: See figure 1.

Media: Dry air; nitrogen gas; fuel per MIL-DTL-5624; lubricating oil per MIL-PRF-7808; hydraulic fluid per MIL-H-5606 or MIL-PRF-83282; oxygen; or Coolanol 25R, or equal.

High temperature (operating and nonoperating): D (400°F and 500°F for 30 minutes).

Low temperature (operating and nonoperating): D (-65°F).

Altitude: C (except 80,000 ft).

Shock: C (100 G).

Vibration: S (test condition D, method 204 of MIL-STD-202, except 10 to 2,000 Hz, 20 G).

Life (mechanical): A (100,000 cycles).

Life (electrical): C (50, 000 cycles).

Acceleration: C (8 G).

Pulsation amplitude: A (0 %).

Pulsation frequency: A (0 Hz).

Pressure rise: A (less than 100 lb_f/in^2).

Dielectric withstanding voltage (at reduced barometric pressure): Applicable at 350 Vrms.

Electrical connector torque: 8 foot-pounds.

Switch mounting torque: 15 foot-pounds.

Terminal strength: Applicable.

Flame test: Applicable.

Explosion: Applicable.

QUALIFICATION:

Single submission: Restricted to switch submitted.
Group submission: See table V.

PART NUMBER: Consists of "M" prefix followed by specification sheet number; a dash (-); and a five-letter code. The five-letter code identifies the configuration, electrical rating, and pressure setting mode (code from table I); high-pressure setting (coarse value code from table II) followed by fine value with applicable tolerance (code from table III); and low-pressure setting (coarse value code from table II) followed by fine value with applicable tolerance (code from table III). The five-letter code used in the following example identifies a switch of configuration 1, low level to 1 ampere resistive at 28 Vdc, which actuates on increasing pressure at 1.5 ±0.5 lb_f/in^2 and deactuates on decreasing pressure at 0.5 ±0.5 lb_f/in^2.

EXAMPLE:

M9395/38- A AJ AG

"M" PREFIX AND SPECIFICATION SHEET NUMBER

CONFIGURATION, ELECTRICAL, RATING, AND PRESSURE SETTING MODE = Code "A" of table I

HIGH-PRESSURE SETTING = Code "A" of table II (coarse value of 0 lb_f/in^2 and Code "J" of table III (fine value of 1.5 ± 0.5 lb_f/in^2).

LOW-PRESSURE SETTING = Code "A" of table II (coarse value of 0 lb_f/in^2 and code "G" of table II (fine value of 0.5 ± 0.5 lb_f/in^2).

NOTE: Design limitations (actuation values and tolerances, deadband and actuation values and tolerances) should be coordinated with the manufacturer(s) listed on the QPL for this spec sheet before specifying a particular "M" number. The fact that operating characteristics can be coded does not necessarily mean that it can be manufactured or procured.

TABLE I. Codes for combinations of configurations, electrical ratings, and pressure settings modes.

	Low level to 1 A resistive at 28 Vdc				1.5 to 5 A resistice at 28 Vdc				Pressure setting mode	
	Configuration				Configuration					
	1		2		1		2			
	Electrical chamber		Electrical chamber		Electrical chamber		Electrical chamber		High setting	Low setting
	Hermetic	Unsealed	Hermetic	Unsealed	Hermetic	Unsealed	Hermetic	Unsealed		
Code	A	D	G	K	N	R	U	X	At (or max) 1/	At (or min) 1/
Code	B	E	H	L	P	S	V	Y	At (or max) 1/	Differential 2/
Code	C	F	J	M	Q	T	W	Z	Differential 2/	At (or min) 1/

1/ Setting values are designated by codes from table II and III.
2/ Setting values are designated by codes from table IV.

TABLE II. Codes for coarse settings.

Code	Coarse value (lb_f/in^2)	Code	Coarse value (lb_f/in^2)	Code	Coarse value (lb_f/in^2)
A	0	L	30	W	80
B	2.5	M	35	X	85
C	5	N	40	Y	90
D	7.5	P	45	Z	95
E	10	Q	50	1	100
F	12.5	R	55	2	105
G	15	S	60	3	110
H	17.5	T	65	4	115
J	20	U	70	5	120
	25	V	75	6	125

TABLE III. Codes for combinations of fine settings and tolerance values.

	Fine value (lb_f/in^2) for settings below 20 lb_f/in^2					Tolerance (lb_f/in^2)
	0	0.5	1	1.5	2	
Code	A	B	C	D	E	±0.25
Code	F	G	H	J	K	±0.5
Code	L	M	N	P	Q	±1.0
Code	R	S	T	U	V	±1.5
Code	W	X	Y	Z	1	±2.0
Code	2	3	4	5	6	±2.5
Code	7	8	9	0	-	Min or Max
	Fine value (lb_f/in^2) for settings of 20 lb_f/in^2 and above					Tolerance (lb_f/in^2)
	0	1	2	3	4	
Code	A	B	C	D	E	±1.0 1/
Code	F	G	H	J	K	±2.0 2/
Code	L	M	N	P	Q	±3.0 3/
Code	R	S	T	U	V	±4.0
Code	W	X	Y	Z	1	±5.0
Code	2	3	4	5	6	±6.0
Code	7	8	9	0	-	Min or Max

1/ Not applicable for pressure settings above 33 lb_f/in^2.

2/ Not applicable for pressure settings above 66 lb_f/in^2.

3/ Not applicable for pressure settings above 100 lb_f/in^2.

TABLE IV. Codes for differential settings. 1/

Code	Differential value (lb_f/in^2)	Code	Differential value (lb_f/in^2)
A	0	T	11
B	0.5	U	12
C	1	V	13
D	1.5	W	14
E	2	X	15
F	2.5	Y	16
G	3	Z	18
H	3.5	1	20
J	4	2	22
K	4.5	3	24
L	5	4	26
M	5.5	5	28
N	6	6	30
P	7	7	35
Q	8	8	40
R	9	9	45
S	10	0	50

1/ Differential settings require two codes, minimum differential and maximum differential.

TABLE V. Extent of qualification.

Part number	No. of samples required	Tests	Qualifies
ELECTRICAL CHAMBERS EITHER HERMETICALLY SEALED OR UNSEALED			
M9395/38-AAEAH -NAEAH -N6R4R A6R4R	2 ea. resistive 2 ea. intmd current 2 ea. low level 2 ea. resistive	Complete per qualification inspection on MIL-DTL-9395	All
ELECTRICAL CHAMBERS UNSEALED			
M9395/38-BAEAH -DAEAH -D6R4R -X6R4R	2 ea. resistive 2 ea. intmd current 2 ea. low level 2 ea. resistive	Complete per qualification inspection of MIL-DTL-9395	Configuration codes D, E, F, K, L, M, R, S, T, X, Y, Z.

NOTE: Revision letters are not used to denote changes due to the extensiveness of the changes.

Custodians:
Army - CR
Navy - EC
Air Force - 11

Preparing activity:
DLA - CC

(Project 5930-1730-14)

Review activities:
Army - AV
Navy - MC, SH
Air Force - 99